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CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

Vol. XVIII APRIL, 1946 No. 4

FIG. 33. *Echinocereus rigidissimus*

CACTUS AND SUCCULENT JOURNAL

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DAYTON, OHIO, ATTENTION

Charles Cole is scheduled for a 11:30 breakfast talk on May 1 for the Montgomery County Horticultural Society. Contact Mrs. Besse G. Heine for reservation at the Van Cleve Hotel. At 12:15 there will be an organization meeting.

CORRESPONDENTS WANTED

Harry M. James, 89 Gladstone St., Kew E4, Victoria, Australia

FROM THE LOS ANGELES TIMES

"Cacti require little attention, once established. The roots obtain their moisture from the air, rather than from the ground, so irrigation and cultivation are minimized." (Will wonders never cease! This type of publicity shows the lack of understanding by the garden writers.)

F. A. Siebenthaler, of Wickenburg, Arizona, reports that he has a 24-pad *Opuntia basilaris* with 263 flowers. Can anyone boast of one with more flowers?

ALOE BAINESII Dyer

By J. R. BROWN

Here and there in gardens along the coast of So. California may be found young specimens of the tree Aloe, *Aloe Bainesii* Dyer, native to the eastern coast of South Africa in Natal and adjacent territory. Most of them are probably 12-15 years old, as much seed of this Aloe was sown about 1932, in some cases maybe a little earlier, in others a little later, and while our very severe winter of 1936-37 took a heavy toll of the young plants, several endured and have grown into fairly large plants and in some cases very nice specimens.

One of the finest appearing plants was seen by the writer in Mr. Walmsley's garden near San Diego some time ago, and despite the very windy location atop the mesa where it is growing, it seems very much at home, is growing vigorously and is very symmetrical. It measured 12 feet in height at that time and the trunk was 16 inches in diameter some distance above the ground level. Mr. Walmsley informed me that it had flowered for several years and usually flowered twice each year, in April and in September-October.

A photograph of this Aloe in Mr. Walmsley's garden is reproduced here.

Aloe Bainesii would seem to be the tallest of the Aloes, reaching a height of 40 feet and more, Berger giving the height as 12-20 metres. Marianne North, the artist, in her delightful book of travels in many lands, to paint the plants and flowers, mentions being told, while travelling in the neighborhood of some *Aloe Bainesii*, of one which was measured and found to be 70 feet high, a truly amazing height.

The leathery, recurving leaves are about 3 feet long in dense rosettes at the apex of the branches, deep green in color and broadly channelled, the horny margins armed with widely spaced, short and deltoid teeth.

The comparatively short racemes of densely crowded, yellowish-red flowers are borne on short stout peduncles.

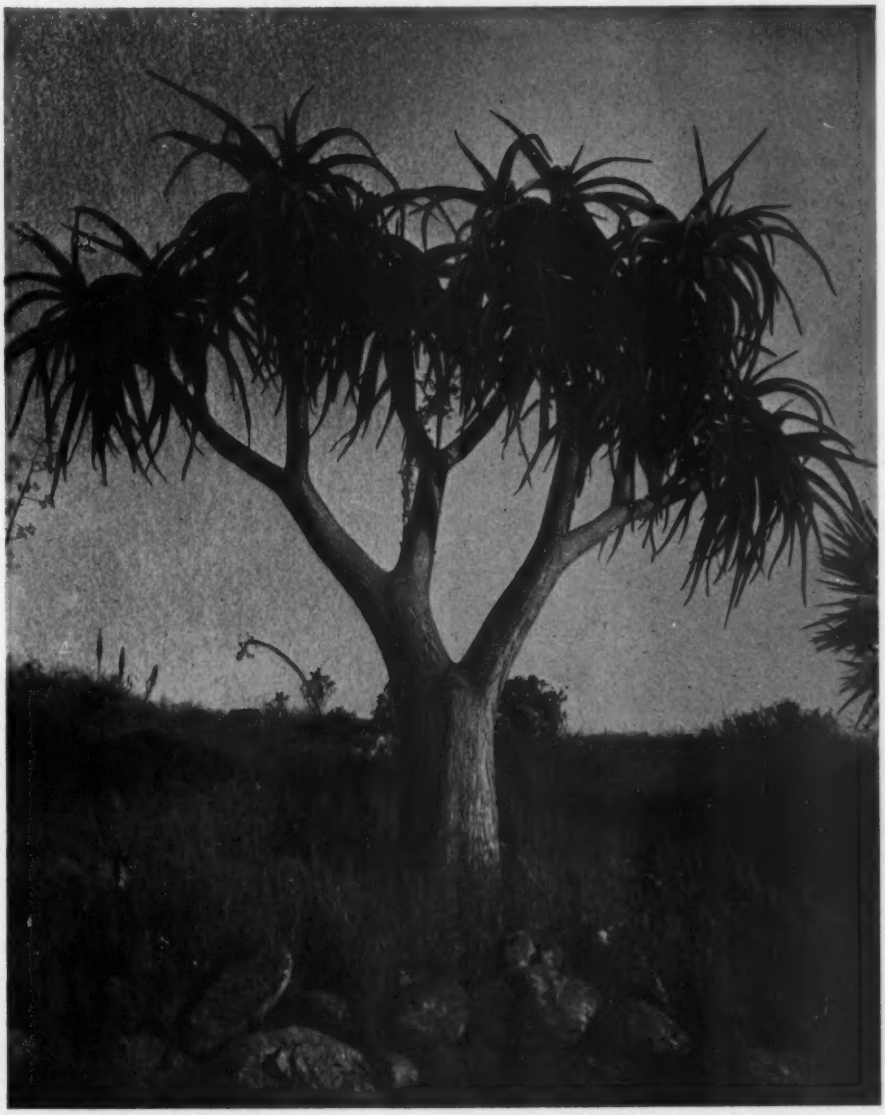


FIG. 34. A young plant of *Aloe Bainesii* Dyer.

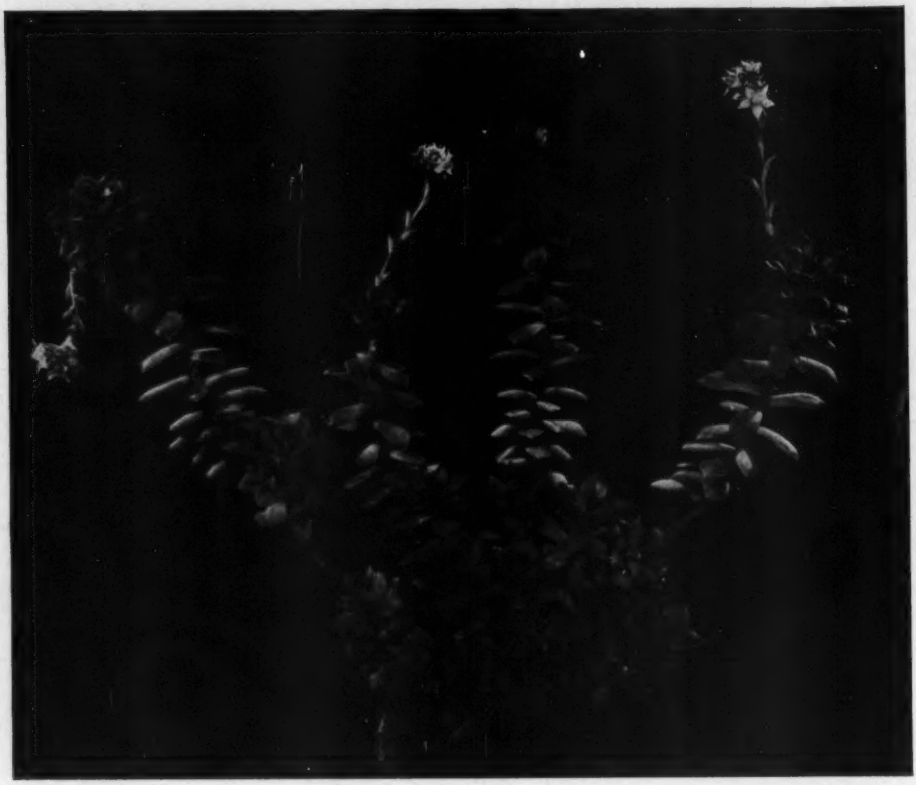


FIG. 35. *Sedum cuspidatum* sp. nov. x 0.4

A New Sedum from Chiapas

By E. J. ALEXANDER

Among the contributions of Mr. T. MacDougall in past years to the succulent collections of the New York Botanical Garden, there have been several shrubby species of *Sedum*. The majority of these have been in the yellow-flowered group centering around *S. dendroideum*, but two of them have given evidence of being relatives of *S. Adolphii*. One of these has finally been coaxed into flower and proves to be an undescribed species of great interest. Its general habit is that of *S. Adolphii*, but it lacks the coarse heaviness of that species, its leaves being smaller, thinner, and more abruptly pointed, and the inflorescence is a more tightly compact, fewer flowered cyme, with the white flowers nearly sessile and more cupped at the base. For this plant, so outstanding in its habit, inflorescence and leaf-form, the following name is proposed:

Sedum cuspidatum Alexander, sp. nov.

Subgenus *Pachysedum* (Berger) Clausen

Planta frutex succulenta, in partibus omnibus glabra; caulibus 4-5 mm. crassibus; foliis alternis 2-2.2 cm. longis et 1 cm. latis et 3 mm. crassis, spatulato-cuspidatis, carinatis in latis inferioribus et superioribus; inflorescentia cymosa compacta, pedunculis 7 cm. longis, cum bracteis ellipseo-lanceolatis 7 mm. longis; floribus albis, pedicellis 1 mm. longis; sepalis 3.5-5 mm. longis, oblanceolatis, acutiusculis; petalis 7 mm. longis, lanceolatis, acutis, canaliculatis, erectis ad mediis, deinde patulis; staminibus 6 mm. longis; antheris rubro-brunneis; squamis obovatis 0.8 mm. longis, 0.7 mm. latis, concavis, apice lunato-truncatis, carpellis erectis, 6 mm. longis.

Plant glabrous in all parts, with fleshy, suffruticose stems 3-5 mm. thick, with many erect

FIG. 36. *Sedum cuspidatum* sp. nov. x 1.3

branches which become decumbent in age. Stems to 25 cm. long with pale gray-brown smooth skin. Leaves light yellow-green, glaucous towards the base, narrowly obovate, about 2 cm. long, 1 cm. broad, and 3 mm. thick, abruptly tapered to a blunt cuspidate apex, strongly keeled on the lower face and less strongly keeled on the upper face. Inflorescence lateral, the peduncle 7 cm. long, naked for the lower 1.5 cm., thence with erect, narrowly elliptic, obtuse bracts 7 mm. long. Flowers 12 mm. in diameter, borne in a tight, compact cyme, the pedicels barely 1 mm. long. Sepals unequal, 3.5-5 mm. long, oblanceolate, acutish. Petals white, 7 mm. long, erect for 3 mm., the remaining 4 mm. spreading, deeply channelled, acute and apiculate-hooded at the apex. Filaments 6 mm. long, white, slender-subulate, anthers purplish-brown, 0.5 mm. in diameter. Nectarean scales obovate, 0.8 mm. high, whitish, truncate-lunate at the pale yellowish apex, 0.7 mm. in diameter. Group of carpels 3 mm. in diameter; individual carpels greenish-white, erect, united for 0.8 mm. above the base, 6 mm. long, the body and style of equal length; styles pale green, stigmas minutely papillate.

Type collected near Ocozocoautla, Chiapas, Mexico, in the winter of 1942-43 and flowered at the New York Botanical Garden in February, 1946.

BOUND BULLETINS

Because of the popularity of the "Amateur Bulletin" published in 1942, we have had a supply bound in green cloth to match the JOURNAL bindings. It's the most valuable $2.00 worth that has been prepared for beginners. 124 pages using common names and clearly illustrated. Some of the articles are: Corsages From Succulents, Color plate of a planted bowl of succulents, Dish Gardening, Potting Succulents for Fun, Mistakes and How to Avoid Them, King of All Cacti —The Old Man, Easter Lily Cactus, Fruits of the Desert, The Giant Cactus, The Lure of the Desert, The Barrel Cacti, Growing Feros and Echinos in Ohio, Rat Tail Cactus, Growing Cactus in the Middle West, The Handsome Hedgehogs, Building a Cactus Collection, Indian Cure-all, Postage Stamps and Cacti, 101 Magazine Articles on Cacti and Succulents, Cactus Seed Germination, Cacti in Window Gardens, 150 photographs. $2.15 postpaid, Box 101, Pasadena.

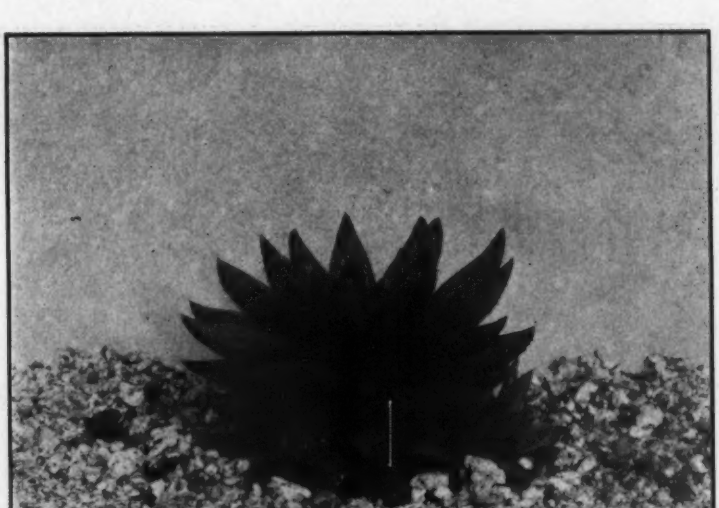


FIG. 37. *Haworthia reticulata* Haw. nat. size.

Notes on Haworthias

By J. R. BROWN

Haworthia reticulata Haw. Syn. 94; Bak. in Journ. Linn. Soc. XVIII (1880) 210; Berger in Pflanzenr. IV. 38 (1908) 103; Schönl. in Rec. Albany Mus. II (1907-1908); Poelln. in Repert. Sp. Nov. XLIV (1938) 233. *Aloe reticulata* Salm-Dyck, Monogr. (1836-63) sect. 10 fig. 1.—*Aloe arachnoides* var. *reticulata* Bot. Mag. (1810) t. 1314.

Plant 5-7 cm. in diam., proliferous from the base and forming a dense cluster.

Leaves, numerous (30-40), oblong-lanceolate, acute, 2.5-3 cm. long, 8-10 mm. broad, erect-spreading, lightly incurving towards the tips, pale green, face of leaves turgid, smooth, back rounded and keeled in the upper part, with many reticulating lines on face and back, but especially conspicuous on the back, the margins and keels scabrous or with minute teeth.

Peduncle simple, slender, with a few flowered raceme; pedicels short, 2-4 mm. long, the deltoid bracts about the same in length or slightly longer; perianth 15-17 mm. long, tube obclavate, somewhat curved, pale rose with darker keels or midribs, the widely recurving segments obtuse, the lower segments somewhat paler than the upper.

Type locality unknown, introduced to cultivation in England about 1794.

Recorded by Schönland, l.c. as occurring in Karroid Hills on Zwartkops River; Stony Hills, Sidbury; Sheldon; Redhouse. Poellnitz, l.c. records it as occurring in the Worcester Distr., Robertson and Swellendam; and from the Port Elizabeth Distr.

An interesting little Haworthia in the sect. *Muticae* Berger, a sect. established by Berger to contain this sp. and which at that time was the sole representative, but which now has many spp. and vars., including *Haw. Hurlingii, Haw. Haageana,* etc. Nearly all the Haworthias of this sect. have the distinct reticulations in the upper part of the leaves, these reticulations assume the appearance of paler, rounded spots and are especially noticeable during the later, drier months of the season when the upper part of the leaves becomes brownish in color and the lighter spots stand out distinctly.

The flowers of nearly all the Haworthias in this sect. are probably the most attractive of the genus, being somewhat stellate, with widely flaring segments and more or less rose colored.

The fig. of *Haworthia reticulata* in Bot. Mag. t 1314 would seem to be a better illustration of

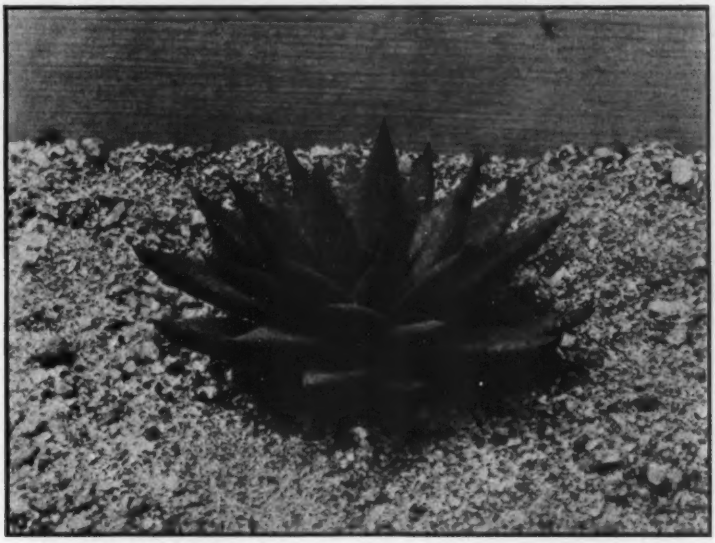


FIG. 38. *Haworthia reticulata* Haw. var. *acuminata* Poelln. nat. size.

this plant than the fig. shown in Salm-Dyck's work.

Haworthia reticulata Haw. var. **acuminata** Poelln. in Repert. Sp. Nov. XLIII (1938) 93.

This plant differs from the type by the slightly longer and acuminate leaves. The flowers are almost the same in size, but the pedicels and bracts are slightly longer.

Type locality: Cape Colony, Robertson.

Haworthia reticulata and the above var. flower in So. Calif. during February-April.

REVISION OF THE GENUS ARIOCARPUS

By W. T. MARSHALL

In the "Cactus Journal" IX:77, November, 1937, I suggested that the genera *Obregonia* Fric and *Strombocactus* B. & R. should be united with *Ariocarpus* because these genera shared, in common with *Ariocarpus,* the characters of horny tubercles, rosette arrangement, relatively small central flowers from the wool bearing central areoles and smooth or nearly smooth fruit almost hidden in the wool. In "Cactaceae" 134, 1941, I suggested that the genus *Encephalocarpus,* which also shared all of these common factors should also be united with *Ariocarpus.*

To accomplish this I propose that the generic description of *Ariocarpus* be emended as follows with these new combinations:

Ariocarpus Scheidweiler
Bull. Acad. Sci. Brux. 5:491. 1839
Emended Marshall

Anhalonium Lemaire, Cact. Gen. Nov. Sp. 1. 1939.

Strombocactus Britton and Rose, Cactaceae III: 106. 1922.

Obregonia Fric, Zeits. f. Sukkulent. XXXV: 184. 1925.

Roseocactus Berger, Journ. Wash. Acad. Sci. XV:43. 1925.

Encephalocarpus Berger, 1928.

Plants with long, beet-like tap roots, the portion above ground disc-like, sub-globose or globose, with more or less triangular or prismatic tubercles which are grooved above (Sub-genus *Roseocactus*) or ungrooved, and then bearing small areoles on the upper face or apex of the tubercles. Flowers diurnal, lasting more than one day, fully expanded, borne on areoles near center of the plant from a mass of wool. Fruit a berry, smooth or bearing a few small scales, retained for a long time in the wool of the areoles.

Type species: *Ariocarpus retusus* Scheidweiler.

KEY TO SPECIES

Tubercles grooved on upper side (Sub-genus *Roseocactus Berger*).
  Tubercles cartilaginous: Plant body above ground flattened.
    Plant small, 3 to 5 cm. in diameter.....1. *A. Kotschoubeyanus*
    Plant larger, 10 to 15 cm. in diameter.
      Tubercles rhomboid; flower purple.....2. *A fissuratus*
      Tubercles triangular; flower white..... var. *Lloydii*
  Tubercles chartaceous; plant cone-shaped.....3. *A. strobiliformis*
Tubercles not grooved on upper side (Sub-genus Euariocarpus).
  Plant body disc-shaped.....4. *A. disciformis*
  Plant body sub-globose.
    Areoles spinescent.
      Areole on apex of tubercle.....5. *A. Denegri*
      Areole on upper surface of tubercle.....6. *A. furfuraceus*
    Areoles not spinescent.
      Tubercle with membranous margin.....7. *A. scapharostrus*
      Tubercle without membranous margin.
        Tubercle triangular-pyramidal.....8. *A. retusus*
        Tubercle flattened on upper surface, keeled below.....9. *A. trigonus*

SPECIES INCLUDED IN THE GENUS

Ariocarpus Kotschoubeyanus (Lemaire) Schumann in Engler and Prantl, Pflanzenfam. Nachtr, 259. 1897.

Anhalonium Kotschoubeyanum Lemaire. Bull. Cercle. Confer. Hort. Dep. Seine. 1842.
Anhalonium sulcatum Salm-Dyck, Cact. Hort. Dyck. 1849 5. 1850.
Cactus Kotschubeyi Kuntze, Rev. Gen. Pl. I: 260. 1891.
Ariocarpus sulcatus Schumann, Monatsschr. Kakteenk. 7:9. 1897.
Roseocactus Kotschoubeyanus Berger, Journ. Wash. Acad. Sci. XV:43. 1925.

Ariocarpus fissuratus (Engelmann) Schumann, Engler & Prantl. 3; 6A:195. 1894.

Mammillaria fissurata Eng., Proc. Amer. Acad. 3:270. 1856.
Anhalonium fissuratum Eng., Cact. Mex. Bound. 75. 1859.
Anhalonium Engelmannii Lemaire, Cactees. 42. 1868.
Ariocarpus Lloydii Rose, Contr. U. S. Nat. Herb. 13:308. 1911.
Roseocactus fissuratus Berger, Journ. Wash. Acad. Sci. V:43. 1925.
Roseocactus Lloydii Berger, Journ. Wash. Acad. Sci. XV:43. 1925.

Ariocarpus strobiliformis Werdermann. Zeitschrift f. Sukkulentenk. 1927.

Encephalocarpus strobiliformis Berger. 1928.

Ariocarpus disciformis (De Candolle) Marshall, comb. nov.

Mammillaria disciformis De Candolle, Mem. Mus. Hist. Nat. Paris. 17:114. 1828.
Echinocactus turbiniformis Pfeiffer, Allg. Gartenz. 6:275. 1838.
Echinofossulocactus turbiniformis Lawrence in Loudon Gard. Mag. 17:318. 1841.
Mammillaria turbinata Hooker in Curtis's Bot. Mag. 69: pl. 3984. 1843.
Cactus disciformis Kuntze, Rev. Gen. Pl. 1:260. 1891.
Cactus turbinatus Kuntze, Rev. Gen. Pl. 1:261. 1891.
Anhalonium turbiniforme Weber, Dict. Hort. Bois 90. 1893.
Echinocactus disciformis Schumann in Engler & Prant. 3; 6A:189. 1894.
Strombocactus disciformis B. & R. Cactaceae III:106. 1922.

Ariocarpus Denegri (Fric) Marshall, comb. nov.

Obregonia Denegri Fric, Zeits. f. Sukkulent. XXXV:184. 1925.

Ariocarpus furfuraceus (Watson) Thompson.

Mammillaria furfuracea S. Watson, Proc. Amer. Acad. 25:150. 1890.
Anhalonium furfuraceum Coulter, Contr. U. S. Nat. Herb. 3:130. 1894.
Ariocarpus furfuraceus Thompson, Rep. Mo. Bot. Gard. 9:130. 1898.

Ariocarpus scapharostrus Bödeker, Kakteen II:60. 1930.

Ariocarpus retusus Scheidweiler, Bull. Acad. Sci. Brux. 5:492. 1838.

Anhalonium prismaticum Lemaire, Cact. Gen. Nov. Sp. 1. 1839.
Anhalonium retusum Salm-Dyck, Cact. Hort. Dyck. 1844. 15. 1845.
Anhalonium elongatum Salm-Dyck, Cact. Hort. Dyck. 1849:77. 1850.
Anhalonium areolosum Lemaire, Illust. Hort. 6:Misc. 35. 1859.
Anhalonium pulvilligerum Lemaire. Illust. Hort. 16:Misc. 72. 1869.
Mammillaria elongata Hemsley, Biol. Centr. Amer. Bot. 1:509. 1880. Not De Candolle 1828.
Mammillaria areolosa Hemsley, Biol. Centr. Amer. Bot. 1:503. 1880.
Mammillaria prismatica Hemsley, Biol. Centr. Amer. Bot. 1:519. 1880.
Cactus prismaticus Kuntze. Rev. Gen. Pl. 1:261. 1891.
Ariocarpus pulvilligerus Schumann, Bot. Jahr. Engler 24:550. 1898.
Ariocarpus prismaticus Cobbold, Journ. Hort. Home Farm. III:46:332. 1903.

Ariocarpus trigonus (Weber) Schumann.

Anhalonium trigonum Weber, Dict. Hort. Bois. 90. 1893.
Ariocarpus trigonus Schumann, Gesamtb. Kakteen 606. 1898.

AFFILIATE NOTES

Please send your Affiliate Notes to Chas. Place, 5048 Hook Tree Rd., Rt. 1, Box 388 T, La Cañada, Calif.

Perhaps in starting this month's column, I should use the French language as a medium, it is much more flexible and expressive than our own. However, the thought expressed by the word "Welcome," is quite understandable in any language and therefore on behalf of the Cactus and Succulent Society of America, I extend a very hearty welcome to our newest Affiliate. Association Francaise des Amateurs de Cactees et Plantes Grasses. Too much can not be said in praise of an Association, who, in spite of the dire conditions through which they have struggled, have attained an end which should be the envy of us all. All Hail, Association Francaise! The following is a list of officers.

President, Andre Bertrand; Vice-President Marcel Riff; Vice-President, Julien Marnier-Lapostolle; Secretaire, Jacques Soulaire; Secretaire pour de bulletin, Leon Pierrat; Tresorier, Julien Marnier-Lapostolle; Comite d'honneur, President—A. Guillaumin, Professeur de Culture au Museum National d'Histoire Naturelle.

Mr. C. L. Wiese (Pub. Chr.) writes:

"The Oklahoma Cactus and Succulent Society had high attendance at February meeting and enjoyed a well prepared and very interesting lesson on Stapelias by Clyde O. Pulse. All else was regular except that Charles Polaski pinned camellias on all the ladies which put him at the head of the class."

I've often wondered why Charlie raised camellias.

Mrs. Ella Nipper (Pres.) writes:

"The Amateur Cactus Society of Chester, Ill., held its February meeting at the Cole Memorial Library February 12. Miss Selma Decker gave an interesting talk on *Echeveria pulvinata*. Gardening on a button was demonstrated by Miss Norma Berry. The door prize for January was an *Echinocereus chloranthus*, donated by Mr. C. W. Nipper and won by Mrs. Arnold Wiebusch. The prize for February was an *Astrophytum myriostigma*, donated by Mrs. Herman Huch and was won by Mrs. Walter Decker. Members present were: Mrs. W. Decker, Miss Selma Decker, Miss Norma Berry, Mrs. H. Huch, Mrs. E. Fey, rs. A. Wiebusch, Mrs. A. Bartels, Mrs. R. Mueller and Mrs. C. Nipper. We are pleased to announce Mrs. Charles Hirte as a new member. Anyone interested in plants is welcome to attend our meeting at the Library, 7 P.M. to 9 P.M., Tuesday, March 5th."

Gardening on a button, I could give one of those gardens proper care.

G. W. van der Bundt (Cor.) writes:

"The Cactus and Other Succulent League of Oakland, had their March meeting at the club headquarters at the W. Andrews' home. Jack Whitehead addressed the meeting. He told about his visit in the Los Angeles area and the many visits with cactophiles. The assembled members were berated by him in a good natured way for their lack of constructive work in cactus research and with other succulents. He pointed out that southern clubs with less than half our membership did more than our club. We have good times though. We have helpful discussions at our meetings. Plans are made for participation in the Oakland spring garden show. We had no show for the duration. Our group has had beautiful displays in the past shows. W. Andrews is Chairman of the committee for the show. The show will open the last of April and run to May 6. All material used for our exhibit is loaned by our members for the purpose."

We wish you every success for the Cactus Show.

E. Worthington (Pres.) writes:

"The Cactus and Succulent Society of British Columbia, owing to the nearness of Christmas to their regular meeting in December, was invited for a social evening at the home of their President. Although there was not a large turnout, those who did go, thoroughly enjoyed the evening's entertainment of games and competition. At the January meeting Mrs. H. L. Allen, F.R.H.S. gave us a very interesting talk on fertilizer and compost heaps. She pointed out that certain authorities suggest that too much chemical fertilizer is used and that if the barnyard manure was composted with all the vegetable waste from the garden, our crops would be much better. Following Mrs. Allen's talk, the President gave a short talk of interest to window gardeners and beginners. At the February meeting the President gave a talk on Cacti from the Beginner's Viewpoint. Programs were tentatively arranged for the March and April meetings."

Both entertaining and educational.

Elmer Dutton (Sec.-Treas.) writes:

"The Washington Cactus and Succulent Society has been meeting only twice a year since the start of gas rationing. At our January meeting we voted to go back to monthly meetings again and to start an intensive drive for new members. We have arranged programs for the next few months including a trip in May east of the Cascade Mountains to Ginko State Park and to see our native cacti in bloom. All of our native cacti are east of the Mountains and from the latest reports have suffered a lot this last winter from too much rain instead of snow. I think that now, things coming back to normal, the Washington Cactus and Succulent Society is going places."

Monthly meetings will be much more attractive for new members.

Mrs. M. Maxwell (Pub. Chr.) writes:

"The Epiphyllum Society of America is busy lining up the Easter Bulletin, which will review Wm. Taylor Marshall's talk given at the Los Angeles Library, March 21."

Something we are all looking forward to.

Wava K. Frye (Sec.) writes:

"The Detroit Cactus and Succulent Society elected the following officers for the year 1946: President, Anthony Barone; Vice-President, Mrs. L. A. Scheich; Secretary-Treasurer, Miss Wava K. Frye; Directors, Mrs. Lester Adams and E. W. Comben; Librarian, C. L. Streeter; Refreshment Chairman, Mrs. L. A. Scheich; Program Chairman, Richard Kolasinski."

We are always glad to get the names of new officers.

Muriel Merrell (Pub. Chr.) writes:

"The Southern California Cactus Exchange held their March meeting on the 17th. Top honors of the meeting went to the guest speaker, Mrs. Charles Place, President of the National Society. Topic of the day was 'Discovery and differences between *Zygocactus* and *Schlumbergera* and their many hybrids.' The discussion was thoroughly enjoyable, sound in basis, well told, and beautifully illustrated with specimen plants from Beahm's Gardens. In addition, over fifty color slides of Epiphyllum blooms were shown with the cooperation of Edward C. Messer. A spirited plant auction followed and the usual door-prizes closed the meeting."

Nomenclatural Changes and Innovations in the Crassulaceae

By ROBERT T. CLAUSEN

The following nomenclatural changes and innovations seem necessary as a result of continued studies of the Crassulaceae. Brief explanations are provided for each change. The purpose of publishing these details now is to make available for immediate use various names which are needed in identifying and annotating the many specimens which come to me for naming. Names on herbarium specimens and garden labels have no botanical status. Unless published with some explanation or description, these names become sources of confusion.

In any family, like the Crassulaceae, in which much research is in progress, changes of some of the names are almost inevitable. Interpretations of taxonomic units, as genera and species, are not absolute and fixed, but are subject to change. As more data accumulate regarding any particular kind of plant, its classification and nomenclature may be subject to revision. For that reason, innovations like the ones which follow, indicate not permanent decisions, but the best interpretation of the plants that seems possible at the time. This is true of all taxonomic publication and is not peculiar to work on the Crassulaceae or other succulent groups.

Parvisedum R. T. Clausen, nom. nov., based on *Sedella* Britton and Rose, Bull. N. Y. Bot. Gard. 3: 45 (1903); not *Sedella* Fourreau, Annales de la Société Linnéenne de Lyon, N. S. 16: 384 (1868), based on *Sedum atratum* L. and *S. villosum* L. Since *Sedella* Britton and Rose is a later homonym, some action must be taken with respect to the name of this genus of diminutive annuals. Two modes of procedure are possible. The name might be recommended for designation as a *nomen conservandum*. This involves the time of several people, expense in publishing the necessary number of recommendations and may end negatively in this particular instance, since the plants involved are neither of economic nor horticultural importance. For that reason, the direct procedure of substituting a new name seems the simplest course to follow. The present generation will be troubled by the necessity to learn a new name in place of an old one for this genus, but a new generation will be troubled no more than we are today because earlier authors on the flora of California referred to *Cotyledon* the plants which we know today as *Dudleya*.

Parvisedum Congdoni (Eastwood.) R. T. Clausen, comb. nov., based on *Sedum Congdonii* Eastwood, Proc. Calif. Acad. III 1: 135, pl. II, fig. 5 (1898).

Parvisedum leiocarpum (H. K. Sharsmith) R. T. Clausen, comb. nov., based on *Sedella leiocarpa* H. K. Sharsmith, Madroño 5: 192 (1940).

Parvisedum pentandrum (H. K. Sharsmith) R. T. Clausen, comb. nov., based on *Sedella pentandra* H. K. Sharsmith, Madroño 3: 240, pl. 12, figs. 4 and 5 (1936).

Parisedum pumilum (Bentham) R. T. Clausen, comb. nov., based on *Sedum pumilum* Bentham, Pl. Hartw., p. 310 (1849).

Sedum ambiflorum R. T. Clausen, nom. nov. Based on *S. australe* Merrill, Bulletin of the Philippine Bureau of Government Laboratories 29: 16 (1905), not *S. australe* Rose (1903). The type was the collection of A. D. E. Elmer, no. 6568, from Mount Santo Tomas, Province of Benguet, Luzon. It was found on boulders in stream depressions, in the lower pine region, at an altitude of about 1400 m. This species is poorly known. I have seen no specimens, but the description suggests that it is related to *S. formosanum* N. E. Brown, from which it differs in its habit, smaller size, narrower leaves and clusters of reduced leaves about each of the flowers, to which the new specific name alludes. *S. actinocarpum* Yamamoto of Formosa probably also is related, but that has smaller flowers with spatulate or oblanceolate leaves.

SEDUM AUSTRALE Rose, Bull. N. Y. Bot. Gard. 3: 41 (1903). This name antedates by two years Merrill's *S. australe*, rendering that a later homonym and requiring a new name for the species of the Philippines. Still another complication involves the correct interpretation of Rose's species. Actually it is frequent in cultivation, but usually identified as *S. oaxacanum*. This

FIG. 39. *Sedum oaxacanum* to left and *S. australe* to righ

confusion dates back at least as far as Praeger (1921) who published as fig. 146 a good illustration of *S. australe,* but labelled it *S. oaxacanum.* Praeger's description of the vegetative structures applies to *S. australe,* but the brief notes about the flowers, quoted from Rose, describe *S. oaxacanum.* Praeger's plant came from Washington, incorrectly labelled as *S. diversifolium* Rose. His illustration and description show that he had the plant which is frequent in the horticultural trade as a large variety of *S. oaxacanum.* This matches the type of *S. australe* which came from the volcano of Santa Maria in Guatemala. Figure 39 shows the differences in leaves and habit between *S. australe* and *S. oaxacanum.* The latter is a slender plant, with red stems, small green oblong-elliptical leaves, 2-6 mm. long and 1.5-2.5 mm. wide, and abundant aerial roots. The former is a robust plant with brown stems, larger, gray-green, obovate or suborbicular leaves, 6-9 mm. long and 3-6 mm. wide, and few or no aerial roots.

SEDUM COCKERELLII Britton. Further study of an isotype of *S. puberulum* Watson indicates that this name probably ought to be assigned to synonymy under *S. Cockerellii,* rather than under *S. Griffithsii,* as was done in my recent paper with Uhl (Clausen and Uhl, 1943). Study of fresh plants from the type locality and an accurate count of the chromosomes will either confirm or disprove this opinion. The dried specimens, described by Watson as having acute or acutish leaves, prove on closer inspection to have leaves which are really blunt at the apex, but appear somewhat acute because of the way they are pressed. Also, the leaves are evidently much broader towards the apex than below. According to notes in Pringle's journal, published by Davis (1936), his collection no. 1242, the basis for Watson's *Sedum puberulum,* was obtained on October 1, 1887, not on October 8 as the printed labels indicate. Pringle gathered the specimens from a high mountain near Guerrero, Chihuahua. The plants likely came from near the summit which he stated to be 9500 ft. above sea level. As the stonecrops of Mexico become better known, it is probable that other species will need to be included within the section *Cockerellia.*

SEDUM DOUGLASII Hooker. This native western American species and its allies, *S. radiatum* Watson and *S. ciliosum* Howell, have recently been subject to different taxonomic treatment. Peck, in his Manual of the Higher Plants of Oregon, p. 361 (1941), treated all three names as conspecific. Rose (1905) and Fröderström (1935) both maintained all three as distinct species. Southwestern Oregon is the critical area for study of these plants. Here *S. radiatum* is at its northern limits, *S. ciliosum* is endemic, and *S. Douglasii* is near its southern limits. The differences between the three "species" are not great. *S. ciliosum,* in some respects, is intermediate and bridges the gap between the other two. The three geographical populations seem really to be subspecies belonging to a single polytypic species.

S. Douglasii subsp. **Douglasii** (Hooker) R. T. Clausen, comb. nov. Based on *S. Douglasii* Hooker, Flor. Bor. Am. 1: 228 (1834).

S. Douglasii subsp. **ciliosum** (Howell) R. T. Clausen, comb. nov. Based on *S. ciliosum* Howell, Flora of Northwest America 1: 214 (1898).

S. Douglasii subsp. **radiatum** (Watson) R. T. Clausen, comb. nov. Based on *S. radiatum* Watson, Proc. Am. Acad. Arts and Sciences 18: 193 (1883).

KEY TO THE SUBSPECIES OF SEDUM DOUGLASII

A. Leaves linear-lanceolate, 3-32 mm. long.....B

B. Leaves not ciliate, either glabrous or minutely papillose, carinate, with the broad spur becoming scarious on drying and the blade becoming involute and persisting as a long arista; sepals acute or acuminate.... *S. Douglasii* subsp. *Douglasii*

BB. Leaves, at least the lower ones, ciliate-papillose, flat or almost so dorsally, with the spur and blade drying uniformly and not becoming markedly different in appearance; sepals long acuminate..... *S. Douglasii* subsp. *ciliosum*

AA. Leaves elliptic-oblong, 3-10 mm. long..... *S. Douglasii* subsp. *radiatum*

Sedum glaucophyllum R. T. Clausen, sp. nov., subgeneris *Eusedum*. Herba perennis, glabra, glauca, radicibus fibrosis, caulibus decumbentibus, ramosis; surculis sterilibus 0.5-5 cm. longis, terminantibus rosellis densis; foliis rosellarum obovatis, spatulatis vel oblongo-spatulatis, pallido-viridibus, glaucis, rotundatis, obtusis vel subacutis, 0.4-1.6 cm. longis, 2-7 mm. latis; caulibus floriferis erectis, 5-19 cm. altis, foliis 30-50, planis, oblanceolatis, 0.5-2.5 cm. longis, 2-6 mm. latis; cymis trifidis vel multiramosis, 2-5.5 cm. in diam.; bracteis floreis ellipticis, 4-9 mm. longis; floribus 8-12 mm. in diam., 4 (rarius 5)-partibus, sessilibus vel in pediculis longis ad 1 mm.; sepalis pallido-viridibus, lanceolatis, acutis vel obtusis, 2.5-4.5 mm. longis; petalis albis, lanceolatis, acutis, 4-8 mm. longis; staminibus 3-5 mm. longis, filamentis albis et antheris purpureis; squamis albis, quadratis, 0.3 mm. longis; pistillis albis, divaricatis, gibbosis ventraliter, 3-4 mm. longis; folliculis xuthis, divaricatis, 5 mm. longis; seminibus

FIG. 40. *Sedum glaucophyllum*. Plant cultivated at Ithaca, N. Y. Photo by W. R. Fisher. x 0.75

oblongo-pyriformibus, xuthis, 0.8 mm. longis. Typus est in herbario Cornell University, Ithaca, N. Y., collecto S. C. Dyal, June 17, 1939, prope Mountain Lake, Giles County, Virginia.

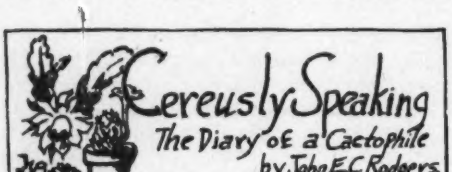
Sedum glaucophyllum differs from *S. Nevii* in its more glaucous foliage, denser sterile rosettes, and broader, usually more numerous flat leaves of the floral stems. *S. Nevii* is a greener, more slender plant with looser rosettes and less numerous subterete or narrowly oblanceolate leaves on the flowering stems. These distinctive features of authentic *S. Nevii* are the characteristics by which Praeger (1917) separated *S. Nevii* var. *Beyrichianum* from what he called typical *S. Nevii*. He wrote: "Plant more diffuse and rather greener. Barren shoots longer with more distant leaves and a very lax terminal rosette; leaves narrower. Floral parts as in type." Praeger stated that he had seen an authentic specimen of *S. Beyrichianum* in the herbarium at Kew. Further, Masters' original description of *S. Beyrichianum* indicated that the leaves are narrower and the flowers smaller than in *S. Nevii*. Since true *S. Nevii* differs from *S. glaucophyllum* in just the characteristics mentioned, also since we know that *S. Nevii* usually has been misinterpreted as the larger plant with broader leaves and denser rosettes, it seems likely that Masters, in publishing *S. Beyrichianum*, was simply redescribing *S. Nevii* A. Gray. Certainly Praeger's description of var. *Beyrichianum* applies to true *S. Nevii*, whereas his description of *S. Nevii* applies to *S. glaucophyllum*. Accordingly, I believe that I was in error in using the name *S. Beyrichianum*, as I did in Brittonia **5**: 36 (1943), for a plant that differs from *S. Nevii* in just the opposite direction in the diagnostic characteristics. Unless some further evidence can be presented to show that Praeger was in error in his interpretation of *S. Beyrichianum* or, as I first supposed, that Masters had described an abnormally slender, diminutive plant of *S. glaucophyllum*, I believe that *S. Beyrichianum* is best assigned to synonymy under *S. Nevii* A. Gray. The fact that Praeger regarded a plant from Virginia as more diffuse and slender than cultivated *S. Beyrichianum* does not alter this opinion for two reasons. First, herbarium specimens of *Sedum* frequently give only a poor impression of how a plant actually appears. This is particularly true of the leaves, which may shrivel considerably in drying. Secondly, it is by no means established that all Virginian plants of the kind that have been called *S. Nevii* must belong to one species. Baldwin (1942) has published counts of chromosomes for plants from three localities in Virginia, but many more counts will be necessary before we can state with any assurance that the plants of Virginia are cytologically uniform or even belong to a euploid series. Plants from Mountain Lake, Giles County, a locality from which Baldwin counted specimens with a gametic number of 14 chromosomes, do not appear specifically different from a plant, cultivated at Ithaca, N. Y., which Uhl determined to have a gametic number of 28 (Brittonia **5**: 36). Without distinctive morphological characteristics, this cytological subspecies requires no formal name. The majority of the specimens which can assuredly be identified as *S. glaucophyllum* come either from western Virginia or West Virginia. Slender specimens from certain areas of western Virginia appear morphologically similar to plants of true *S. Nevii* from Alabama, which both Baldwin (1942) and Uhl (Clausen and Uhl, 1943) determined to have a gametic number of 6 chromosomes. Should further study confim this similarity, but reveal that the slender plants, native in Virginia, have a gametic number of 14, then it will be evident that the morphological and cytological differences are not correlated. In that case, the classification again must be revised and *S. glaucophyllum*, though a genetical species, would need to be handled taxonomically as a synonym under *S. Nevii*, since it would not be a practical unit capable of recognition by ordinary observation. Meanwhile, taxonomists need a name to substitute for *S. Beyrichianum* which I have wrongly applied to the broad-leaved species.

To be continued

KEY DISTINGUISHING SEDUM GLAUCOPHYLLUM AND S. NEVII

A. Leaves of floral stems 30-50, oblanceolate, flat, 0.5-2.5 cm. long, 2-6 mm. wide; sterile rosettes dense with the leaves 2-7 mm. broad; plants more glaucous ..... *S. glaucophyllum*

AA. Leaves of floral stems 12-40, narrowly oblanceolate or linear-oblanceolate, usually subterete, 3-19 mm. long, 1-3 mm. wide; sterile rosettes loose with the leaves 1-5 mm. wide; plants less glaucous ..... *S. Nevii*



April 1. Three months, just passed, have been made brighter with my eighteen species of Echeverias. Also enjoyed the numerous hybrids, such as Pachyverias, as well as those of the genus Echeveria. I thanked D. Atanasio Echeverria, Mexican Botanico, for his accurate interpretation of our xerophytic tastes. Yes sir, Echeveria gave me some of the most colorful plants of my collection. Kept my succulents on the dry side this year; watered Saturdays. Results: good—plants look better, with less premature growth and more blooms than last year.

April 3. Echeveria elegans (that transparent white beauty) has five offsets as large as the original plant. In bloom from February 8th to March 25th. Flowers last. I find it's best to keep the plants cool, around 50-55 degrees. Direct sunlight doesn't injure either the color or texture of Echeveria blooms. Pink flowers, pale but pretty. Stems have the usual small leaves scattered on the bloom-stalks; these root easily and form new plants. *E. pulvinata* blooms closed after three weeks of spectacular display. Most breathtaking of all the Echeverias, I think. Symphony of color in flowers, leaves and stems. Decorative value A-1. Red edged leaves of yellowish-green-gold plush. Slow grower for me. Easily killed alike by neglect or too much kindness. Colorful cuttings from California are exquisite and easily rooted.

April 7. Potted up five new species of Echeverias from my cutting box (*E. rosea grandis, harmsii, imbricata, nivalis, palmeri*). The compost I use differs very little from that on page 83 of Van Laren's "Succulents"—2 parts rotted straw (three or more years old) or sterilized leafmold, 1 part pulverized clay (yellow here) and ¼ to ⅓ sharp sand by volume. I use pots just large enough to hold a single plant or cluster, using bulb pots if I can get them. Too shallow? Echeverias do not root deeply; surface-feeders, mostly.

April 10. Echeverias have been growing for less than a month. The bloom-stalk of *E. scheideckeri* started in the center of the plant but it's now three leaves away. Took off several leaf-segments from the bloom-stalk, and now I have several plants ½ inch across. *E. leucotricha* has developed two heads. Shorter stemmed for me than *E. pulvinata,* but not as pretty. Has a "green-blue-white" plush-matte surface. Dr. James F. Machwart, Parma, Ohio, has a large pot of *Echeveria leucotricha.* Shy bloomer for him. Decorative!

April 12. Have *E. setosa* growing in two different environments but both ensure a continuous moisture supply at the roots—and slow drying out. One, planted in a cutting box in mostly sand, keeps its lower leaves and remains a compact rosette. Double-potted the other one, using a clay pot set in a glazed one. Has responded well to this treatment. Neither has budded but the lush growth recommends the method to me. Bristles on the leaves gives a halo-effect in light. I looked with envy at the plant with a 12-inch flower spread in "Succulents for the Amateur,' fig. 170, page 98. My plants are three inches in diameter at present. I grow most of my Echeverias in full sun except in mid-summer, when I protect them either with muslin shades or set the pots in the shade of shrubbery.

April 15. Two *E. gibbiflora,* my largest specimens of this genus, have 8-inch heads on 10-inch stalks. Visitors wonder why I don't break off the heads and reroot. Reroot—I says, "what do you think I've been guarding them for? That's the nature of the critters." Valuable? That's what I think. Leaf scars form a pattern over the stems. I grew my two from a gift of five leaf cuttings. Not difficult, but don't disturb them to see if they're rooted for several weeks: they're slow. The smallest plant I have, *E. microcalyx,* is pale green. It bloomed last year about this time with small pink flowers. I usually set it on the surface of the pot holding *E. gibbiflora* (see page 92, Succulents for the Amateur). It always intrigues visitors to the big and little together. *E. nodulosa,* reddish-brown marked gray-green leaves has two heads started per stalk. The pot fell from a shelf, which decapitated both stalks. I rerooted the tops, and gave them away as Christmas presents. Leaves root quickly and produce an abundance of new trading material.

April 23. E. peacockii (*E. desmetiana*), although not as colorful as its name implies (I've heard it was named for a Mr. Peacock), is one of the finest. Irridescent over flesh-pink is my description. Has never bloomed for me. I keep it on the dry side both winter and summer, and it thrives and stays colorful. *E. gilva* (*E. simulans*), with seven heads, is in a 10-inch bulb pot. The leaves are thicker than the other types with a transparent light green look. Pretty and prolific. It didn't stay as healthy looking with one watering a week as it did with one every four days last year. Lost its lower leaves but is now growing fast enough. New soil last summer may have set it back.

April 26. Echeveria glauca, bluish-gray park-bedding favorite, has sent reddish brown roots out over the edge of the pot and out through the drainage hole into soil below. Blooms profusely, but it is not "red" as I had expected: golden orange with a red tinge toward the yellow tips, is more nearly correct. *E. glauca cristata* is not as popular hereabouts as it was; too finicky for amateur window gardeners. However, it's pretty while it lasts. Needs water, rich soil and good light to "hold up."

April 29. E. Derenbergii in bloom. The flowers are produced on medium stalks; large with red coloring. Green leaves are the same shape as *E. glauca* but with a reddish edge. *E. multicaulis,* a reddish leaved plant with a bushy type of branching, budded but hasn't bloomed yet. Looks as if it'd decided to sulk this year. Reclassified two plants labeled *Echeveria clavifolia* and *E. nobilis;* when they bloomed, found them to be *Pachyveria clavata* and *P. clevelandii*—hybrids between Pachyphytum and Echeveria. The buds come up on long stalks with a few small leaves on the stems.

April 30. Marked *E. pilosa* as a "must" to add to my collection. Have one which I bought as this species. Rosette grows on a hairy stalk, and has fuzzy leaves much like *E. leucotricha* and *setosa.* So far it doesn't look like the plant I wanted; however it may be, once it blooms. *E. scaphophylla* branched from the base on stalk-like runners. The offsets root into the soil. Has fleshy rosettes which are heavy, rather than flat with thin leaves, as most of the others I own. *E. turgida* is an offset I bought. It's growing slowly. Gray-blue-purple; rosette forming. It likes a rich, well drained soil with regular waterings. *E. weingartii* is small, pretty and compact, but has a tendency to become leggy for me. Blooms profusely but later than my others. I planted it in the pot with *Crassula tetragona.* Being a surface feeder it does not bother its cousin, but enjoys the shade of the taller plant.

SPINE CHATS

LADISLAUS CUTAK

In a talk presented by Mr. E. J. Cook to the delegates and interested visitors at the Ninth Annual Conference of the South African Institute of Parks Administration at Pietermaritzburg the speaker particularly laid stress on the need of additional Botanic Gardens in South Africa for the preservation of the flora from total destruction. He pointed out that thousands of rare plants from a national and botanical point of view are destroyed by mountain and veld fires, accidental or man-made; by insect pests and severe droughts; by housing schemes and industrial building expansion when no thought is given to the plants which grow on the site; by construction of airports and emergency landing fields, and also by wholesale collecting of adult wild plants for export trade. Mr. Cook fears that the housing and building expansion of Port Elizabeth will doom to destruction such interesting spurges as *Euphorbia elliptica, E. gorgonis, E. globosa, E. stellata* and several others. He knows that similar conditions will prevail at other South African towns where industries, housing and post-war building schemes are contemplated. He realizes and foresees the destruction, if not extinction, of acres of rare genera and localized species, such as Carallumas, Hoodias, Stapelias, Tavaresias, Lithops, Cheiridopsis, Conophytums, Titanopsis, Euphorbias and many others. Such a state of affairs calls for immediate action on the part of all plant lovers with the object of preserving such plants from destruction. The best means of protecting South Africa's unique flora is by establishing at least four additional national botanic gardens in preference to nature reserves. Nature Reserves are simply fenced and posted areas where only what grows within is protected, whereas a botanical garden not only includes native vegetation but attempts to perpetuate all other exotic species. At present only one National Botanic Garden is established in South Africa and that one is located at Kirstenbosch, near Cape Town. Students and plant lovers living in remote parts must travel 500 to 1000 miles if they wish to study South African flora at Kirstenbosch. Mr. Cook recommended several sites for the gardens, the first at Windhoek in South-West Africa, the second at Port Elizabeth in the Eastern Province where there is already a large Nature Reserve and where the rocky krantzes now abound with many rare types of Aloes, Crassulas, Haworthias and other indigenous flowering trees, shrubs and plants. The third botanic garden should be located in Natal, the exact site left to experts for decision, and the last could be chosen in either the Transvaal or Orange Free State, preferably adjacent to a large town.

* * *

Eric Hulten of the Botanical Museum, Lund, Sweden, has been preparing the much needed "Flora of Alaska and Yukon" for a number of years and already five parts of it have appeared. Our attention was drawn to Part 5 (published, like the preceding four, in Lunds Universitets Arsskrift) which contains the treatment on the Crassulaceae. Some of you will be surprised to learn that succulents grow in subarctic regions, although in limited numbers. The subarctic succulents are mostly confined to the Sedum group. In Alaska, only three true species are known to exist, in addition to one subspecies and a single variety. *Sedum oreganum, S. Rosea* and *S. stenopetalum* are rather limited in distribution on the Alaska mainland but *Sedum Rosea* subsp. *integrifolium* and *S. Rosea* var. *frigidum* are abundant. The former is the most widely distributed stonecrop in Alaska, growing not only in great abundance on the mainland but also in the Aleutians and other islands of the Bering Sea. Hulten states that the racial conditions within *S. Rosea* are very complicated and that studies in nature and a much larger and better preserved material than that now available is necessary for clearing up these complicated conditions. (How well we know this, and this applies so aptly to other hardy Sedums.) His intentions are merely to draw attention to them, but he has made the two new combinations, *S. Rosea* subsp. *integrifolium* and *S. Rosea* var. *frigidum* to support his viewpoint in the matter. The former is the prevailing type in Eastern Asia and Western America and is a rather low grown plant with green or slightly glaucous, more or less evenly distributed leaves on the stem, and with purplish-black flowers with purplish-black filaments and yellow anthers; while the latter is a high-grown, robust, strongly glaucous type which originally was described as *Sedum frigidum* by Rydberg and *Rhodiola alaskana* by Rose.

* * *

Give your friends cactus plants and in that way you might develop new cactophiles. At any rate that is how Mr. William E. Geer of Willimantic, Connecticut, became an enthusiast. Someone had given him a few cacti and they condescended to bloom for him. They were so excitingly beautiful that he decided to add more. Then he decided to send for a catalog and found therein so many items he had never heard of before that he decided it would be a challenge to follow them through. Before friend Geer realized it he was deeply in love with cacti and this hobby brought him in contact with many fine people. All the dealers have displayed a sympathetic understanding of his wants when he didn't really know himself. His collection is not large, numbering around 70 species, but he adds a few every now and then. He winters them in a spare bedroom with southern exposure and is quite pleased with the results. Haselton's book, "CACTI FOR THE AMATEUR," gave him ideas about cataloging and cultural hints which he follows assiduously.

Mr. Geer has been interested in plant life since childhood and besides his cactus hobby grows gladioli in great numbers. Growing glads started as a hobby several years ago when he was regularly employed at the local post office in Willimantic. Due to a back injury he had to leave the employ of the Government till he could get his spine strong again. In the past two years he has done quite well with his gladioli, so he has decided to see just what can be done with them commercially.

* * *

The beloved archbishop of St. Louis, John Cardinal Glennon, died in Dublin, Eire, on March 9, while on his return trip to St. Louis from Rome, where he had received the Red Hat from Pope Pius XII. I will always remember this venerable 83-year old prelate who annually paid a visit to the Missouri Botanical Garden and took interest in the plants housed there, particularly in the two desert houses.

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334 Lowell St., Daly City, Calif.

CACTUS PLANTS AND OTHER SUCCULENTS
"LA QUINTA"
Owner Fernando Schmoll
Cadereyta de Montes, Queretaro, Mexico

Wintertime is the best season for ordering your plants! They will be shipped in early spring the very best planting time. Please ask for lists or send money for my famous collections:

50 different plants.....$13.00
100 different plants.....$25.00

Shipment FREE U. S. Plants half yours, half my choice. Collections include one crest. Please apply for import permit at the U.S. Dept. of Agriculture, Washington, D.C., stating number and kind of plants desired and send respective tag with your order; no charge. There always is a great assortment of showplants, crests, clusters, succulents and other rare plants. Prices according to size and beauty.

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